

## عنوان مقاله:

Morphological studies of LDPE prepared using pyridine-imine based catalysts: Effect of catalyst bulkiness and metal

## محل انتشار:

بیستمین کنگره شیمی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 1

## نویسندگان:

Mohsen Mogheiseh - *Department of Chemistry, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran*

Gholam Hossein Zohuri - *Department of Chemistry, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran*

## خلاصه مقاله:

Polyethylene with special morphology, such as spherical morphology, as a raw material is interesting from industrial point of view, because it allows easy processing. Besides thermal and physical properties of polyethylene, the size and shape of polyethylene particles are considered as important features of this widely used product. Based on this, a series of pyridine-imine [N-N] ligands were efficiently prepared through the condensation reaction of ketone precursor and synthesized aniline. The ligands ( $L_n$ ,  $n=1-3$ ) and corresponding nickel complexes ( $C_n$ ,  $n=1-3$ ) were characterized and used for polymerization of ethylene in the presence of modified methylaluminoxane (MMAO) as cocatalyst. The SEM images were used to monitor the influence of different bulky ligands and metals on structural morphology of the products. A uniform morphology is observed for all polyethylene samples prepared at the polymerization temperature of 0 °C. The observed morphologies were globular clump for the polyethylene obtained in the presence of the C1 catalyst to sphangum moss for the C2 catalyst. It can also be mentioned that, with replacing of iron metal to the active center of the catalyst, the specific morphology of the polyethylene particle for C3 catalyst is changed to the rock-shape and single population of crystalline phase in the DSC trace was seen. However, the DSC curve of the obtained polyethylene using C1 and C2 showed two broad peaks, which could be attributed to clumped structure in morphology of the products shown in Figure 1

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/851005>

